

communication sequence between the mobile terminal and the power adapter; conducting, by the mobile terminal, a bidirectional communication with the power adapter via a second data line of the USB interface under control of the communication sequence to cause the power adapter to determine to charge the mobile terminal in the quick charging mode; and receiving, by the mobile terminal, the charging current corresponding to the quick charging mode from the power adapter to charge a battery of the mobile terminal.

[0015] In combination with the second aspect, in an implementation of the second aspect, the communication sequence comprises instruction reception time slots of the mobile terminal and instruction transmission time slots of the mobile terminal, and the instruction reception time slots and the instruction transmission time slots are alternatively generated. Conducting, by the mobile terminal, a bidirectional communication with the power adapter via a second data line of the USB interface under control of the communication sequence to cause the power adapter to determine to charge the mobile terminal in the quick charging mode comprises: receiving, by the mobile terminal, a first instruction from the power adapter via the second data line during the instruction reception time slot of the mobile terminal, wherein the first instruction is used to query the mobile terminal for whether or not to activate the quick charging mode; and transmitting, by the mobile terminal, a reply instruction corresponding to the first instruction to the power adapter via the second data line during the instruction transmission time slot of the power adapter, wherein the reply instruction corresponding to the first instruction is used for indicating that the mobile terminal agrees to activate the quick charging mode.

[0016] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the instruction reception time slot of the mobile terminal comprises a plurality of clock periods, and each of the plurality of clock periods is used for receiving a 1-bit data.

[0017] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the instruction reception time slot of the mobile terminal comprises eight clock periods, and the first instruction comprises a 8-bit data.

[0018] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the instruction transmission time slot of the mobile terminal comprises a plurality of clock periods, and each of the plurality of clock periods is used for transmitting a 1-bit data.

[0019] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the instruction transmission time slot of the mobile terminal comprises ten clock periods, and the reply instruction corresponding to the first instruction comprises a 10-bit data.

[0020] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the reply instruction corresponding to the first instruction is an instruction of a quick charging communication instruction set of the mobile terminal, and instructions of the quick charging communication instruction set have the same previous n bits.

[0021] In combination with the second aspect or any of the above implementation manners, in another implementation

manner of the second aspect, each clock period of the clock signal comprises a low level of 10 μ s and a high level of 500 μ s.

[0022] In combination with the second aspect or any of the above implementation manners, in another implementation manner of the second aspect, the first data line is a D+ data line of the USB interface, and the second data line is a D- data line of the USB interface.

[0023] A third aspect provides a power adapter. The power adapter is coupled to a mobile terminal via a USB interface. A power line of the USB interface is used for the power adapter to charge the mobile terminal. The power adapter supports a normal charging mode and a quick charging mode, and a charging current corresponding to the quick charging mode is greater than a charging current corresponding to the normal charging mode. The power adapter comprises a communication unit configured to transmit clock signal to the mobile terminal via a first data line of the USB interface in a process of that the power adapter is coupled to the mobile terminal, wherein the clock signal is used for indicating a communication sequence between the power adapter and the mobile terminal. The communication unit is further configured to conduct a bidirectional communication with the mobile terminal via a second data line of the USB interface under control of the communication sequence to determine to charge the mobile terminal in the quick charging mode. The power adapter further comprises a current adjusting unit configured to adjust a charging current of the power adapter to the charging current corresponding to the quick charging mode to charge the mobile terminal.

[0024] In combination with the third aspect, in an implementation manner of the third aspect, the communication sequence comprises instruction transmission time slots of the power adapter and instruction reception time slots of the power adapter, and the instruction transmission time slots and the instruction reception time slots are alternatively generated. The communication unit is configured to transmit a first instruction to the mobile terminal via the second data line during the instruction transmission time slot of the power adapter, and the first instruction is used to query the mobile terminal for whether or not to activate the quick charging mode. The communication unit is further configured to receive a reply instruction corresponding to the first instruction via the second data line during the instruction reception time slot of the power adapter, and the reply instruction corresponding to the first instruction is used for indicating that the mobile terminal agrees to activate the quick charging mode. The communication unit is further configured to determine to charge the mobile terminal in the quick charging mode according to the reply instruction corresponding to the first instruction.

[0025] In combination with the third aspect or any of the above implementation manners, in another implementation manner of the third aspect, the instruction transmission time slot of the power adapter comprises a plurality of clock periods, and each of the plurality of clock periods is used for transmitting a 1-bit data.

[0026] In combination with the third aspect or any of the above implementation manners, in another implementation manner of the third aspect, the instruction transmission time slot of the power adapter comprises eight clock periods, and the first instruction comprises a 8-bit data.

[0027] In combination with the third aspect or any of the above implementation manners, in another implementation